HOOKER & HOLCOMBE, INC.
Benefit Consultants and Actuaries

65 LaSalle Road
West Hartford, CT 06107-2397

860-521-8400 tel
860-521-3742 fax
www.hhconsultants.com

City of Meriden Fire Employees' Pension Plan

Actuarial Valuation Report

July 1, 2014

Timothy A. Ryor
Senior Vice President and
Consulting Actuary

Robert P. Lessard
Senior Actuarial Analyst

April 9, 2015

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Executive Summary		
	2014	**2012**
Number of participants		
Active	54	61
Terminated vested	0	0
Vested in employee contributions only	0	0
Retired, Disabled and Beneficiaries	117	113
Total	171	174
Total annual plan salaries	$4,048,391	$4,349,943
Average plan salary	74,970	71,311
Actuarial accrued liability	83,914,767	79,799,856
Asset value		
Market	50,560,094	46,235,786
Actuarial	54,495,663	53,337,981
Unfunded actuarial accrued liability	29,419,104	26,461,875
Funded Ratio	65%	67%
Normal cost - City (valuation year)	416,340	479,425
Contributions for next two fiscal years		
1st Fiscal Year	3,040,690	2,808,242
2nd Fiscal Year	3,054,069	2,823,649

Introduction

Purpose of the Valuation

The purpose of the valuation is to determine the funded status of the plan as well as the recommended cash contribution for the plan year.

The ultimate cost of a pension plan is based primarily on the level of benefits promised by the plan. The pension fund's investment earnings service to reduce the cost of plan benefits and expenses. Thus,

City's ultimate cost	=	*benefits paid*	+	*expenses incurred*	-	*investment return*	-	*employee contributions*

The actuarial cost method distributes this ultimate cost over the working lifetime of current plan participants. By means of this budgeting process, costs are allocated to both past and future years, and a cost is assigned to the current year. The current year's allocated cost, or normal cost, is the building block upon which the range of annual cash contributions is developed.

Information Available in the Valuation Report

The Executive Summary and Introduction are intended to emphasize the notable results of the valuation from the perspective of the Plan Sponsor. Supporting technical detail is documented in Valuation Results and Actuarial Basis. A concise summary of the principal provisions of the Plan is outlined in Summary of Plan Provisions.

Contribution for 2016 and 2017 Fiscal Years

The actuarial valuation as of July 1, 2014 produces the contribution for the City's 2016 and 2017 fiscal years. The actuarially calculated contribution payable (after allowing for employee contributions) is as follows:

Fiscal Year Ending	
2016	**2017**
Amount	**Amount**
$3,040,690	$3,054,069

Introduction

(continued)

Asset Performance

The plan's assets provided the following rates of return on plan assets during the past two fiscal years.

	Fiscal Year Ending	
	2013	**2014**
Market Value Basis	4.5%	14.8%
Actuarial Value Basis	4.5%	6.1%

The Actuarial Value of assets, rather than the Market Value, is used to determine plan contributions. The Actuarial Value spreads the asset volatility over five years, thereby smoothing out fluctuations that are inherent in the Market Value.

The valuation uses a long-term investment return assumption of 8.00% on the Actuarial Value of assets. Because the actual return in 2013 and 2014 was less than this assumption, there was an actuarial loss from assets.

Participant Data

The valuation incorporates assumptions anticipating changes in the demographics of the participant population. Actual experience will produce greater or smaller than expected increases in the actuarial liabilities.

There were some liability losses which combined with the asset losses caused an increase in the contribution.

Plan Changes

Updates were made to the Employee Contribution provisions.

Assumption and Cost Method Changes

There were no changes made to the plan.

Certification

This report presents the results of the July 1, 2014 Actuarial Valuation for the City of Meriden Fire Employees' Pension Plan (the Plan) for the purpose of estimating the funded status of the Plan and determining the Actuarially Determined Employer Contribution (ADEC) for the fiscal years ending June 30, 2016 and June 30, 2017. This report is intended to satisfy the requirements of Connecticut General Statute 7-450a. This report may not be appropriate for any other purpose.

The valuation has been performed in accordance with generally accepted actuarial principles and practices. It is intended to comply with all applicable Actuarial Standards of Practice.

I certify that the actuarial assumptions and methods that were selected by me and represent my best estimate of anticipated actuarial experience under the Plan.

In preparing this valuation, I have relied on employee data provided by the Plan Sponsor, and on asset and contribution information provided by the Plan Sponsor. I have audited neither the employee data nor the financial information, although I have reviewed them for reasonableness.

The results in this valuation report are based on the Plan as summarized in the *Summary of Plan Provisions* section of this report and the actuarial assumptions and methods detailed in the *Actuarial Basis* section of this report.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the Plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of this report, an analysis of the potential range of such future measurements has not been performed.

I am a member of the American Academy of Actuaries and meet its Qualification Standards to render the actuarial opinion contained herein.

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Timothy A. Ryor, FSPA, FCA, MAAA, Enrolled Actuary
14-05126

April 9, 2015

Valuation Results

A. Actuarial Balance Sheet and Funded Ratio

	July 1, 2014	July 1, 2012
Actuarial Liabilities		
Accrued Liability for:		
Active Employees	$ 23,919,641	$ 24,878,097
Retirees, Disabled and Beneficiaries	59,995,126	54,921,759
Terminated Vested Employees	0	0
Total	83,914,767	79,799,856
Source of Funds		
Plan Assets	54,495,663	53,337,981
Unfunded Accrued Liability	29,419,104	26,461,875
Total	83,914,767	79,799,856
Funded Ratio		
Plan Assets divided by Actuarial Accrued Liability	65%	67%

Valuation Results
(continued)

B. Determination of Actuarial Gain/(Loss)

The Actuarial Gain/(Loss) for a year is the difference between the Expected Unfunded Actuarial Accrued Liability and the Actual Unfunded Actuarial Accrued Liability, without regard to any plan changes or changes in methods or actuarial assumptions. Such a gain/(loss) is also referred to as an Experience Gain/(Loss), since it reflects the difference between what was expected and what was actually experienced.

Actuarial Gain/(Loss)	
1. Expected unfunded actuarial accrued liability July 1, 2014	
a. Expected unfunded actuarial accrued liability July 1, 2013	
i. Unfunded actuarial accrued liability July 1, 2012	$26,461,875
ii. Employer Normal Cost July 1, 2012	479,425
iii. Employer Contributions for 2012/2013	2,643,414
iv. Interest at 8.00% to July 1, 2013 on (i), (ii) and (iii)	2,051,602
v. Expected unfunded actuarial accrued liability July 1, 2013: (i) + (ii) - (iii) + (iv)	26,349,488
b. Expected unfunded actuarial accrued liability July 1, 2013	
i. Unfunded actuarial accrued liability July 1, 2013	26,349,488
ii. Estimated Employer Normal Cost July 1, 2013	479,425
iii. Employer Contributions for 2013/2014	2,808,242
iv. Interest at 8.00% to July 1, 2014 on (i), (ii) and (iii)	2,036,144
v. Expected unfunded actuarial accrued liability July 1, 2014: (i) + (ii) - (iii) + (iv)	26,056,815
2. Actual unfunded actuarial accrued liability July 1, 2014 for gain/(loss) determination	29,419,104
3. Actuarial gain/(loss): (1b)(v) - (2)	(3,362,289)
4. Sources of gain/(loss)	
a. Net gain/(loss) from investments	(2,975,862)
b. Net gain/(loss) from liabilities	(386,427)
c. Total net gain/(loss): (a) + (b)	(3,362,289)

Valuation Results
(continued)

C. Valuation Results - July 1, 2014 and Employer Contribution for Fiscal 2016 and 2017

Based on the employee data and asset information furnished us, the actuarial methods and assumptions and the plan provisions, the results of the July 1, 2014 valuation are:

1. Normal cost	
a. Total normal cost	$ 628,936
b. Employee contributions	212,596
c. Town normal cost	416,340
2. Accrued liability	
a. Active	23,919,641
b. Vested	-
c. Retirees, Beneficiaries, Disabled	59,995,126
d. Total accrued liabilitity	83,914,767
3. Market value of assets	50,560,094
4. Actuarial value of assets	54,495,663
5. Unfunded accrued liability: (2d) - (4)	29,419,104
6. Payment on unfunded accrued liabilty	
a. Interest rate	8.00%
b. Amortization years	28
c. Payment	2,464,910
7. Estimated administrative expenses	30,000
8. Annual town cost, adjusted for timing	3,027,700
9. Payroll	3,543,271
a. Cost as a percentage of payroll	85.45%
10. Budget for Fiscal Year ending June 30, 2016	
a. Normal cost	428,830
b. Amortization	2,464,910
c. Expenses	30,000
d. Total, adjusted for timing	3,040,690
11. Budget for Fiscal Year ending June 30, 2017	
a. Total, adjusted for timing	3,054,069

Valuation Results
(continued)

D. Assets

Development of Asset Market Values

Summary of Fund Activity		
	July 1, 2012 - June 30, 2013	**July 1, 2013 - June 30, 2014**
1. Beginning value	$ 46,251,164	$ 46,207,905
2. Contributions		
a. City contributions during year	2,643,414	2,808,242
b. Employee contributions during year	381,780	360,575
c. Total for plan year	3,025,194	3,168,817
3. Disbursements		
a. Benefit payments during year	5,080,998	5,439,284
b. Administrative expenses during year	27,612	29,361
c. Other	7,959	1,002
d. Total for plan year	5,116,569	5,469,647
4. Net investment return		
a. Interest and dividends	1,030,455	896,372
b. Realized and unrealized gain (loss)	1,273,688	6,037,246
c. Investment-related expenses	(256,027)	(280,599)
d. Total	2,048,116	6,653,019
5. Ending value	46,207,905	50,560,094
6. Approximate rate of return	4.5%	14.8%

Valuation Results
(continued)

D. Assets

The Actuarial Value of assets is used in the determination of plan contributions. It phases in differences between the Market Value and the Expected Actuarial Value by recognizing 20% of the difference each year. A method of smoothing is used because the Market Value can swing widely from one year to the next, resulting in undesirable fluctuations in pension contributions.

Determination of the Actuarial Value of Assets	
1. Actuarial value of assets at July 1, 2012	$53,337,981
2. Employer and employee contributions for 2013	3,025,194
3. Disbursements during 2013	(5,116,569)
4. Expected return during 2013	4,183,383
5. Expected actuarial asset value at July 1, 2013	55,429,989
6. Market value July 1, 2013	46,207,905
7. Appreciation (depreciation) recognized 20% x [(6) - (5)]	(1,844,417)
8. Actuarial asset value at July 1, 2013 (5) + (7)	53,385,572
9. Contributions for 2014	3,168,817
10. Disbursements during 2014	(5,469,647)
11. Expected return during 2014	4,194,813
12. Expected actuarial asset value at July 1, 2014	55,479,555
13. Market value July 1, 2014	50,560,094
14. Appreciation (depreciation) recognized 20% x [(13) - (12)]	(983,892)
15. Actuarial asset value at July 1, 2014	54,495,663
16. Actuarial value as a percent of market value	107.8%
2012-2013 Year return on Actuarial Value of Assets	4.5%
2013-2014 Year return on Actuarial Value of Assets	6.1%

Valuation Results
(continued)

E. Membership Data

Employee Participation: July 1, 2012 - July 1, 2014

Participant Data					
		Terminated Vested			
	Active	With Monthly Benefit	Contributions Only	Retired, Disabled and Beneficiaries	Total
Total Participants July 1, 2012	61	0	0	113	174
Adjustments	0	0	0	0	0
Retirements - non disabled	-6	0	N/A	+6	0
Disability Retirement	0	N/A	N/A	0	0
Terminations					
With vested benefit	0	0	N/A	N/A	0
Vested in contributions only	0	N/A	0	N/A	0
Lump sum settlements	0	0	0	0	0
Deaths					
Without beneficiary	0	0	0	-3	-3
With beneficiary	-1	0	0	-2	-3
New beneficiaries	N/A	0	0	+3	+3
Rehires	0	0	0	0	0
New entrants	N/A	N/A	N/A	N/A	N/A
Total Participants July 1, 2014	54	0	0	117	171
Average age					
July 1, 2012	48.4				
July 1, 2014	49.7				
Average service					
July 1, 2012	22.4				
July 1, 2014	23.7				
Total annual plan salaries					
July 1, 2012	$4,349,943				
July 1, 2014	4,048,391				
Total monthly benefits					
July 1, 2012		$0		$415,486	
July 1, 2014		0		454,189	

Actuarial Basis

A. Actuarial Cost Methods

Asset Valuation Method

The Actuarial Value of assets used in the development of plan contributions phases in differences between the Market Value and the Expected Actuarial Value by recognizing 20% of the difference each year.

Actuarial Funding Method

The actuarial valuation method used in the cost calculations is the Entry Age Normal Actuarial Cost Method. Recommended annual contributions until the actuarial accrued liability is completely funded will consist of two pieces:

a. Normal Cost - The actuarial cost to fund benefit units earned during the year.

b. Amortization Payments of Unfunded Actuarial Accrued Liability - The actuarial cost to amortize the unfunded portion of the actuarial liability. For the July 1, 2014 Valuation, a closed amortization period of 28 years was used.

Process

The valuation is performed as of the first day of a plan year. The valuation is used to determine the City contributions for the following two fiscal years. To accomplish this objective, we apply the City's Normal Cost Accrual Rate from the valuation year, to the estimated payroll for the target year to determine the Normal Cost for that year. We assume the dollar amount of the amortization payments on the unfunded liability will remain unchanged between the two years.

Actuarial Basis
(continued)

B. Actuarial Assumptions

The actuarial assumptions used in the determination of costs and liabilities are as follows:

Interest: 8% compounded annually, net of investment expenses.

Salary Scale: It is assumed that salaries will increase by 3% per annum (compounded) plus a graded scale of 7% at age 20 down to 0% at age 60 and beyond.

Mortality: Retirement: RP-2000 Mortality Table with separate male and female rates, with blue collar adjustment, separate tables for non-annuitants and annuitants, projected to the valuation date with Scale AA.

Disability: RP-2000 Mortality Table with separate male and female rates, with no collar adjustment, combined table for non-annuitants and annuitants.

Mortality Improvement: Retirement: Projected to date of decrement using Scale AA (generational mortality).

Disability: None.

Termination prior to retirement: Sample rates are as follows:

Age	Disability*	Withdrawal
20	0.06%	0.00%
25	0.09	0.00
30	0.11	0.00
35	0.15	0.00
40	0.22	0.00
45	0.36	0.00
50	0.61	0.00
55	1.01	0.00
60	1.63	0.00

**100% of disabilities with less than 10 years of service are considered service connected.*

Actuarial Basis

(continued)

B. Actuarial Assumptions (continued)

Retirement Rates: Sample rates are as follows:

Completed Years of Service	Retirement
<25	0%
25	10
26-29	5
30	40
31-34	20
35+	100

Percent Married: 75%.

Age of Spouse: Males are assumed to be three years older than their spouses.

Administrative Expense: We have included estimated administrative expenses in the development of the normal cost. The applicable amount for July 1, 2014 is $30,000.

Cost of Living: Retirement date prior to April 1, 2003: 3.75%

Retirement date on or after April 1, 2003: 3.00%

Portion of benefit due to Emoluments: Active liabilities are loaded 7.3% to reflect the portion of future benefits based on 50% of emoluments.

Summary of Plan Provisions

This summary outlines the major features of the Plan. It does not give full details or cover all aspects of the Plan. The actual terms and conditions of the Plan are stated documents with the City.

Effective date	Originally effective June 6, 1913. Amended and restated as of July 1, 2006.
Eligibility for Participation	Regular full-time firefighters hired prior to March 18, 2003, covered under the IAFF, Local 1148 collective bargaining agreement.
Years of Service	Completed whole years of employment during which employee has made required contributions.
Base Rate of Pay	Salary or wages including elective deferrals under 401(k) or Sec. 125, limited by IRC 401(a)(17).
Emoluments	Longevity payments, holiday pay, life insurance and health insurance minus cost share.
Accrued Benefit	2.2% of Base Pay x Years of Service up to 30 Years, plus 50% of current Emoluments.
Normal Retirement	
Age & Service Requirements	Earlier of • 25 Years of Service • Age 65
Benefit	Accrued Benefit
Termination	
Prior to completion of 25 Years of Service	Return of employee contributions plus regular interest.
After completion of 10 Years of Service	Accrued Benefit, payable when Member would have completed 20 Years.

Summary of Plan Provisions
(continued)

Disability	
Eligibility	None if service-related; otherwise completion of 10 Years of Service.
Benefit	50% of Base Pay plus Emoluments.
Death Prior to Retirement	Non-service related: Return of employee contributions plus regular interest.
	Service-related: Surviving spouse receives 100% of Accrued Benefit as if Officer had 25 Years of Service. Upon attainment of date Officer would have attained 25 Years, spouse's benefit decreases to 50% of the pension amount. Payable until death or remarriage.
Post-retirement Death Benefit	Surviving spouse receives one-half of amount Member was receiving at time of death. Payable until death or remarriage.
Normal Form of Retirement Benefit	Single life annuity.
Employee Contributions	8% of Base Pay, split between Pension and OPEB at the City's discretion, plus Emoluments.
	Prior Valuation: 6% of Base Pay plus Emoluments. (In addition, 2% is contributed to the Retiree Health Insurance Fund.)
COLA	Retirement prior to January 1, 2003: based on increases in Base Pay for the rank held at retirement.
	Retirement after January 1, 2003: active members retiring with at least 25 Years of Service: 3% of Base Pay, excluding Emoluments.

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